



Environment Testing
America

ANALYTICAL REPORT

Eurofins TestAmerica, St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

Laboratory Job ID: 160-40800-3
Laboratory Sample Delivery Group: GJ46599746
Client Project/Site: HPNS-Parcel G 501197
Revision: 1

For:
Aptim Federal Services LLC
4005 Port Chicago Hwy, Suite 200
Concord, California 94520

Attn: Rose Condit

Rhonda Ridenhower

Authorized for release by:
4/14/2021 9:46:45 PM

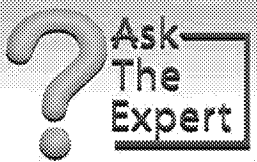
Rhonda Ridenhower, Client Service Manager
(314)298-8566
Rhonda.Ridenhower@Eurofinset.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Aptim Federal Services LLC
Project/Site: HPNS-Parcel G 501197

Job ID: 160-40800-3
SDG: GJ46599746

Job ID: 160-40800-3

Laboratory: Eurofins TestAmerica, St. Louis

Narrative

CASE NARRATIVE

Client: Aptim Federal Services LLC

Project: HPNS-Parcel G 501197

Report Number: 160-40800-3

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, St. Louis attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Manual Integrations were performed only when necessary and are in compliance with the laboratory's standard operating procedure. Detailed information can be found in the raw data section of the level IV report.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The matrix of the Method Blank and LCS is as close to the following samples as can be reasonably achieved. Detailed information can be found in the most current version of the associated SOP.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

Revision 1- Additional information requested in case narrative for strontium analysis

Case Narrative

Client: Aptim Federal Services LLC
Project/Site: HPNS-Parcel G 501197

Job ID: 160-40800-3
SDG: GJ46599746

Job ID: 160-40800-3 (Continued)

Laboratory: Eurofins TestAmerica, St. Louis (Continued)

RECEIPT

The samples were received on 12/15/2020; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 7.0 C.

Additional analysis requested by the client and not listed on the COC- total strontium and strontium 90 analyzed four times.

STRONTIUM-90 (GFPC)

Sample HPPG-ESU-TU124A-021 (160-40800-21) was analyzed for Strontium-90 (GFPC) in accordance with EPA 905. The samples were dried on 12/17/2020, prepared on 01/27/2021 and analyzed on 02/05/2021.

The method blank (MB) z-score associated with Prep Batch 160-496850 is within limits and is stored in the level IV raw data. (MB 160-496850/7-A)

When taking small mass aliquots from dried/disaggregated sample, the laboratory avoids large rocks/pebbles (as well as sticks, etc) which may constitute a larger than representative portion of the aliquot. Smaller rocks may be included. This is consistent with QSM and Laboratory SOP: HPPG-ESU-TU124A-021 (160-40800-21) and (160-40800-A-21-G DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL BETA STRONTIUM (GFPC)

Sample HPPG-ESU-TU124A-021 (160-40800-21) was analyzed for Total Beta Strontium (GFPC) in accordance with EPA 905. The samples were dried on 12/17/2020, prepared on 01/27/2021 and analyzed on 02/19/2021.

The method blank (MB) z-score associated with Prep Batch 160-496860 is within limits and is stored in the level IV raw data. (MB 160-496860/7-A)

When taking small mass aliquots from dried/disaggregated sample, the laboratory avoids large rocks/pebbles (as well as sticks, etc) which may constitute a larger than representative portion of the aliquot. Smaller rocks may be included. This is consistent with QSM and Laboratory SOP: HPPG-ESU-TU124A-021 (160-40800-21) and (160-40800-A-21-G DU).

The following sample exhibited a negative result greater in magnitude than the 3 sigma TPU. This occurrence was evaluated and determined to be random in nature. Sporadic occurrences such as this are statistically expected. No further action is required. HPPG-ESU-TU124A-021 (160-40800-21).

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page



CHAIN OF CUSTODY

Ref. Document # 501197RSY-054

Page 1 of 4

APTIM Federal Services, LLC

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Lisa Bercik

Phone #: (619)213-3389

Send Report to: Rose Condit

Phone/Fax Number: 415-987-0760

Address: 4005 Port Chicago Hwy

Sample Lead: Murri, Andrew

Sample Tech(s): Paul Leblanc

Project Number: 501197

Project Name: Hunters Point Naval Shipyard, Parcel G Remedial Action

Project Location: San Francisco, CA

Purchase Order #: 1159058

Shipment/Pickup Date: 12/14/2020

Waybill Number: 41952-0225 9099

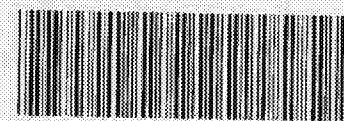
Lab Destination: Test America (St. Louis Lab)
13715 Rider Trail North
Earth City, MO 63046

Lab Contact Name/ph #: Rhoeda Ridenbower (314)298-8566

Analysis Requested

Gamma Spec (EPA 901.1 M) - Full 21 day in growth gamma

Strontium-90 (EPA 905 MOD)



160-40800 Chain of Custody

Dose Rate
uR/Hr

Evidence Bag
ID

Comment

Collection Information													
Sample ID	Date	Time	Method	Matrix	# of Containers	Container Type							
HPPG-ESU-TU124A-001	12/10/2020	11:00	G	SO	1	16 oz. plastic jar	X		X		6	GJ46599746	
HPPG-ESU-TU124A-002	12/10/2020	11:03	G	SO	1	16 oz. plastic jar	X				6	GJ46599746	
HPPG-ESU-TU124A-003	12/10/2020	11:07	G	SO	1	16 oz. plastic jar	X				6	GJ46599746	
HPPG-ESU-TU124A-004	12/10/2020	11:09	G	SO	1	16 oz. plastic jar	X				6	GJ46599746	
HPPG-ESU-TU124A-005	12/10/2020	11:11	G	SO	1	16 oz. plastic jar	X				6	GJ46599746	
HPPG-ESU-TU124A-006	12/10/2020	11:13	G	SO	1	16 oz. plastic jar	X				6	GJ46599746	
HPPG-ESU-TU124A-007	12/10/2020	11:15	G	SO	1	16 oz. plastic jar	X				6	GJ46599746	
HPPG-ESU-TU124A-008	12/10/2020	11:17	G	SO	1	16 oz. plastic jar	X				6	GJ46599746	

Special Instructions:

21 day ingrowth results only

Turanaround Time: 3-day ☐ 10-Day ☐ 28-day ☐ Other ☐

Level of QC Required: I ☐ II ☐ III ☐ Project Specific ☐

Method Codes C = Composite G = Grab Matrix Codes: DW = Drinking Water; So = Soil; GW = Ground Water; SL = Sludge; WW = Waste Water; CP = Chip Samples; A = Air; ABS = Asbestos; PO = Pipe Opening

Relinquished By:	Relinquisher Signature:	Relinquish Date Time:	Received By:	Received Signature:	Receive Date Time:
Murri, Andrew		12/10/2020 16:51	Locked Storage (RKillpack)		12/10/2020 16:51
Locked Storage (RKillpack)		12/14/2020 10:16	Andrew Murri		12/14/2020 10:16
Andrew Murri		12/14/2020 10:21	SHIPPED TO LAB FED EX		12/15/2020

*** Last 3 transfers shown above - Complete list of transfers on last page

MICHA KORRINHIZER

01:24

ED_006360A_00000347-00005



CHAIN OF CUSTODY

Ref. Document # 501197RSY-054

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APTIM Federal Services, LLC

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Lisa Bercik
Phone #: (619)213-3389

Send Report to: Rose Condit
Phone/Fax Number: 415-987-0760
Address: 4005 Port Chicago Hwy
City: Concord, CA 94520

Sample Lead: Murri, Andrew

Sample Tech(s): Paul Leblanc

Project Number: 501197

Project Name: Hunters Point Naval Shipyard: Parcel
G Remedial Action

Project Location: San Francisco, CA

Purchase Order #: 1159058

Shipment/Pickup Date: 12/14/2020

Waybill Number: 41957 0225 9099

Lab Destination: Test America (St. Louis Lab)
13715 Rider Trail North
Earth City, MO 63046

Lab Contact Name/ph #: Rhoeda Ridenbower (314)298-8566

Analysis Requested

Gamma Spec (EPA 901.1 M) - Full 21
day in growth gamma

Strontium-90 (EPA 905 MOD)

Dose
Rate
uR/Hr

Evidence Bag
ID

Comment

Collection Information				Matrix	# of Containers	Preservatives (soil)											
Sample ID	Date	Time	Method			Container Type											
HPPG-ESU-TU124A-009	12/10/2020	11:19	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-010	12/10/2020	11:21	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-011	12/10/2020	11:23	G	SO	1	16 oz. plastic jar	X		X					6	GJ46599746		
HPPG-ESU-TU124A-012	12/10/2020	11:25	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-013	12/10/2020	11:27	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-014	12/10/2020	11:29	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-015	12/10/2020	11:31	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-016	12/10/2020	11:33	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-017	12/10/2020	11:35	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-018	12/10/2020	11:37	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-019	12/10/2020	11:39	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-020	12/10/2020	11:41	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-021	12/10/2020	11:43	G	SO	1	16 oz. plastic jar	X		X					6	GJ46599746		
HPPG-ESU-TU124A-022	12/10/2020	11:45	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-023	12/10/2020	11:47	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-024	12/10/2020	11:49	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		
HPPG-ESU-TU124A-025	12/10/2020	11:53	G	SO	1	16 oz. plastic jar	X							6	GJ46599746		

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CHAIN OF CUSTODY

Ref. Document # 501197RSY-054

Page 3 of 4

APTIM Federal Services, LLC

4005 Port Chicago Hwy
Concord, CA 94520

Project Manager: Lisa Bercik
Phone #: (619)213-3389

Send Report to: Rose Condit
Phone/Fax Number: 415-987-9760
Address: 4005 Port Chicago Hwy
City: Concord, CA 94520

Sample Lead: Murri, Andrew

Sample Tech(s): Paul Leblanc

Project Number: 501197

Project Name: Hunters Point Naval Shipyard: Parcel
G Remedial Action

Project Location: San Francisco, CA

Purchase Order #: 1159058

Shipment/Pickup Date: 12/14/2020

Waybill Number: 4957 0825 9099

Lab Destination: Test America (St. Louis Lab)
13715 Rider Trail North
Earth City, MO 63046

Lab Contact Name/ph #: Rhoeda Ridenbower (314)298-8566

Sample ID	Collection Information			Matrix	# of Containers	Analysis Requested									Evidence Bag ID	Comments
	Date	Time	Method			Preservatives (soil)										
						Container Type										
HPPG-F-057	12/10/2020	11:21	G	SO	1	16 oz. plastic jar	X						6	GJ46599746		
HPPG-F-058	12/10/2020	11:53	G	SO	1	16 oz. plastic jar	X						6	GJ46599746		





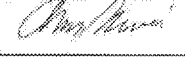

Analysis Requested							Evidence Bag ID	Comment
Gamma Spec (EPA 901.1 M) - Full 21 day in growth gamma		Strontium-90 (EPA 905 MOD)				Dose Rate uR/Hr		
X						6	GJ46599746	
X						6	GJ46599746	

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All Transfers for COC 501197RSY-054

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Relinquished By:	Relinquisher Signature:	Relinquish Date Time:	Received By:	Received Signature:	Receive Date Time:
Murri, Andrew		12/10/2020 16:51	Locked Storage (RKillpack)		12/10/2020 16:51
Locked Storage (RKillpack)		12/14/2020 10:16	Andrew Murri		12/14/2020 10:16
Andrew Murri		12/14/2020 10:21	SHIPPED TO LAB VIA FED EX		12/15/2020 09:24

MICHA KORRINHIZER

Login Sample Receipt Checklist

Client: Aptim Federal Services LLC

Job Number: 160-40800-3

SDG Number: GJ46599746

Login Number: 40800

List Number: 1

Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Definitions/Glossary

Client: Aptim Federal Services LLC
Project/Site: HPNS-Parcel G 501197

Job ID: 160-40800-3
SDG: GJ46599746

Qualifiers

Rad

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method Summary

Client: Aptim Federal Services LLC
Project/Site: HPNS-Parcel G 501197

Job ID: 160-40800-3
SDG: GJ46599746

Method	Method Description	Protocol	Laboratory
905	Strontium-90 (GFPC)	EPA	TAL SL
905.0	Total Beta Strontium (GFPC)	DOE	TAL SL
DPS-0	Preparation, Digestion/ Precipitate	None	TAL SL
DPS-7	Preparation, Digestion/Precipitate Separation (7-Day In-Growth)	None	TAL SL
Dry and Grind	Preparation, Dry and Grind	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
None = None

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Aptim Federal Services LLC
Project/Site: HPNS-Parcel G 501197

Job ID: 160-40800-3
SDG: GJ46599746

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
160-40800-21	HPPG-ESU-TU124A-021	Solid	12/10/20 11:43	12/15/20 09:24	

Client Sample Results

Client: Aptim Federal Services LLC
Project/Site: HPNS-Parcel G 501197

Job ID: 160-40800-3
SDG: GJ46599746

Client Sample ID: HPPG-ESU-TU124A-021

Lab Sample ID: 160-40800-21

Date Collected: 12/10/20 11:43

Matrix: Solid

Date Received: 12/15/20 09:24

Method: 905.0 - Total Beta Strontium (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	LOQ	DLC	Unit	Prepared	Analyzed	Dil Fac
Total Beta Strontium	-0.0720	U	0.0449	0.0452	0.160	0.0440	pCi/g	01/27/21 20:49	02/19/21 07:09	1
Total Beta Strontium	0.0347	U	0.0729	0.0729	0.160	0.0572	pCi/g	01/27/21 20:49	02/19/21 07:10	1
Total Beta Strontium	0.0167	U	0.0644	0.0645	0.160	0.0517	pCi/g	01/27/21 20:49	02/19/21 07:10	1
Total Beta Strontium	0.0215	U	0.0579	0.0579	0.160	0.0456	pCi/g	01/27/21 20:49	02/19/21 07:10	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Sr Carrier	92.3		40 - 110	01/27/21 20:49	02/19/21 07:09	1
Sr Carrier	80.0		40 - 110	01/27/21 20:49	02/19/21 07:10	1
Sr Carrier	87.4		40 - 110	01/27/21 20:49	02/19/21 07:10	1
Sr Carrier	88.6		40 - 110	01/27/21 20:49	02/19/21 07:10	1

Method: 905 - Strontium-90 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	LOQ	DLC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.0225	U	0.138	0.138	0.331	0.111	pCi/g	01/27/21 18:16	02/05/21 14:51	1
Strontium-90	-0.0108	U	0.161	0.161	0.331	0.134	pCi/g	01/27/21 18:16	02/05/21 14:51	1
Strontium-90	0.0508	U	0.167	0.167	0.331	0.133	pCi/g	01/27/21 18:16	02/05/21 14:51	1
Strontium-90	-0.228	U	0.180	0.181	0.331	0.164	pCi/g	01/27/21 18:16	02/05/21 14:51	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Sr Carrier	92.3		40 - 110	01/27/21 18:16	02/05/21 14:51	1
Sr Carrier	80.0		40 - 110	01/27/21 18:16	02/05/21 14:51	1
Sr Carrier	87.4		40 - 110	01/27/21 18:16	02/05/21 14:51	1
Sr Carrier	88.6		40 - 110	01/27/21 18:16	02/05/21 14:51	1
Y Carrier	95.0		40 - 110	01/27/21 18:16	02/05/21 14:51	1
Y Carrier	89.7		40 - 110	01/27/21 18:16	02/05/21 14:51	1
Y Carrier	92.7		40 - 110	01/27/21 18:16	02/05/21 14:51	1
Y Carrier	92.3		40 - 110	01/27/21 18:16	02/05/21 14:51	1

Eurofins TestAmerica, St. Louis

QC Sample Results

Client: Aptim Federal Services LLC
Project/Site: HPNS-Parcel G 501197

Job ID: 160-40800-3
SDG: GJ46599746

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-496850/7-A
Matrix: Solid
Analysis Batch: 497944

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 496850

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	LOQ	DLC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.1744	U	0.175	0.176	0.331	0.157	pCi/g	01/27/21 18:16	02/05/21 14:52	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	89.9		40 - 110					01/27/21 18:16	02/05/21 14:52	1
Y Carrier	87.5		40 - 110					01/27/21 18:16	02/05/21 14:52	1

Lab Sample ID: LCS 160-496850/1-A
Matrix: Solid
Analysis Batch: 497944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 496850

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	LOQ	DLC	Unit	%Rec	%Rec. Limits
Strontium-90	8.29	7.434		0.806	0.331	0.135	pCi/g	90	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Sr Carrier	85.4		40 - 110						
Y Carrier	90.1		40 - 110						

Lab Sample ID: 160-40800-21 DU
Matrix: Solid
Analysis Batch: 497944

Client Sample ID: HPPG-ESU-TU124A-021
Prep Type: Total/NA
Prep Batch: 496850

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	LOQ	DLC	Unit	RER	RER Limit
Strontium-90	0.0508	U	0.01156	U	0.172	0.331	0.141	pCi/g	0.12	1
Carrier	DU %Yield	DU Qualifier	Limits							
Sr Carrier	85.7		40 - 110							
Y Carrier	90.8		40 - 110							

Method: 905.0 - Total Beta Strontium (GFPC)

Lab Sample ID: MB 160-496860/7-A
Matrix: Solid
Analysis Batch: 499460

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 496860

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	LOQ	DLC	Unit	Prepared	Analyzed	Dil Fac
Total Beta Strontium	0.03605	U	0.0576	0.0577	0.160	0.0441	pCi/g	01/27/21 20:49	02/22/21 10:38	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	89.9		40 - 110					01/27/21 20:49	02/22/21 10:38	1

Eurofins TestAmerica, St. Louis

QC Sample Results

Client: Aptim Federal Services LLC
Project/Site: HPNS-Parcel G 501197

Job ID: 160-40800-3
SDG: GJ46599746

Method: 905.0 - Total Beta Strontium (GFPC) (Continued)

Lab Sample ID: LCS 160-496860/1-A
Matrix: Solid
Analysis Batch: 499307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 496860

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	LOQ	DLC	Unit	%Rec	%Rec. Limits
Total Beta Strontium	8.28	7.652		0.622	0.160	0.0448	pCi/g	92	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Sr Carrier	85.4		40 - 110

Lab Sample ID: 160-40800-21 DU
Matrix: Solid
Analysis Batch: 499460

Client Sample ID: HPPG-ESU-TU124A-021
Prep Type: Total/NA
Prep Batch: 496860

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	LOQ	DLC	Unit	RER	RER Limit
Total Beta Strontium	0.0347	U	0.05895		0.0635	0.160	0.0471	pCi/g	0.18	1

Carrier	DU %Yield	DU Qualifier	Limits
Sr Carrier	85.7		40 - 110

QC Association Summary

Client: Aptim Federal Services LLC
Project/Site: HPNS-Parcel G 501197

Job ID: 160-40800-3
SDG: GJ46599746

Rad

Leach Batch: 496822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-40800-21	HPPG-ESU-TU124A-021	Total/NA	Solid	Dry and Grind	
160-40800-21 DU	HPPG-ESU-TU124A-021	Total/NA	Solid	Dry and Grind	

Prep Batch: 496850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-40800-21	HPPG-ESU-TU124A-021	Total/NA	Solid	DPS-7	496822
160-40800-21	HPPG-ESU-TU124A-021	Total/NA	Solid	DPS-7	496822
160-40800-21	HPPG-ESU-TU124A-021	Total/NA	Solid	DPS-7	496822
160-40800-21	HPPG-ESU-TU124A-021	Total/NA	Solid	DPS-7	496822
MB 160-496850/7-A	Method Blank	Total/NA	Solid	DPS-7	
LCS 160-496850/1-A	Lab Control Sample	Total/NA	Solid	DPS-7	
160-40800-21 DU	HPPG-ESU-TU124A-021	Total/NA	Solid	DPS-7	496822

Prep Batch: 496860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-40800-21	HPPG-ESU-TU124A-021	Total/NA	Solid	DPS-0	496822
160-40800-21	HPPG-ESU-TU124A-021	Total/NA	Solid	DPS-0	496822
160-40800-21	HPPG-ESU-TU124A-021	Total/NA	Solid	DPS-0	496822
160-40800-21	HPPG-ESU-TU124A-021	Total/NA	Solid	DPS-0	496822
MB 160-496860/7-A	Method Blank	Total/NA	Solid	DPS-0	
LCS 160-496860/1-A	Lab Control Sample	Total/NA	Solid	DPS-0	
160-40800-21 DU	HPPG-ESU-TU124A-021	Total/NA	Solid	DPS-0	496822

Tracer/Carrier Summary

Client: Aptim Federal Services LLC
Project/Site: HPNS-Parcel G 501197

Job ID: 160-40800-3
SDG: GJ46599746

Method: 905 - Strontium-90 (GFPC)

Matrix: Solid

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Sr (40-110)	Y (40-110)
160-40800-21	HPPG-ESU-TU124A-021	92.3	95.0
160-40800-21	HPPG-ESU-TU124A-021	80.0	89.7
160-40800-21	HPPG-ESU-TU124A-021	87.4	92.7
160-40800-21	HPPG-ESU-TU124A-021	88.6	92.3
160-40800-21 DU	HPPG-ESU-TU124A-021	85.7	90.8
LCS 160-496850/1-A	Lab Control Sample	85.4	90.1
MB 160-496850/7-A	Method Blank	89.9	87.5
Tracer/Carrier Legend			
Sr = Sr Carrier			
Y = Y Carrier			

Method: 905.0 - Total Beta Strontium (GFPC)

Matrix: Solid

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Sr (40-110)	
160-40800-21	HPPG-ESU-TU124A-021	92.3	
160-40800-21	HPPG-ESU-TU124A-021	80.0	
160-40800-21	HPPG-ESU-TU124A-021	87.4	
160-40800-21	HPPG-ESU-TU124A-021	88.6	
160-40800-21 DU	HPPG-ESU-TU124A-021	85.7	
LCS 160-496860/1-A	Lab Control Sample	85.4	
MB 160-496860/7-A	Method Blank	89.9	
Tracer/Carrier Legend			
Sr = Sr Carrier			